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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/736,698

12/17/2003

Lan Chen

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04/03/2009

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

VIANA DI PRISCO, GERMAN

ART UNIT

PAPER NUMBER

2617

NOTIFICATION DATE

DELIVERY MODE

04/03/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/736,698	Applicant(s) CHEN ET AL.	
	Examiner GERMAN VIANA DI PRISCO	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. ("Itoh", United States Patent Application Publication No.: US 2006/0205358 A1) in

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view of Alastalo (United States Patent No.: 6,721,302 B1), and further in view of Takano (United States Patent Application Publication No.: US 2003/0148780 A1).

Consider claims 1, 3, 5, and 7, Itoh shows and discloses a packet communications system for carrying out packet communications between a base station 2 and a mobile station 1₁ located in an area controlled by the base station, the system comprising a channel quality detecting unit configured to detect a channel quality between the base station and the mobile station (Receiving Quality Judging Unit 21 in figure 3 and paragraph [0141], and Receiving Quality Estimation Unit 50 in figure 8 and paragraph [0153]); a buffered data monitoring unit configured to monitor the amount of data buffered in a transmission buffer of the base station (control unit 86 in figure 14 and paragraphs [0226] and [0228]); and a modulation scheme determination unit configured to determine a modulation scheme for the packet communications based on the channel quality and the buffered data amount in the transmission buffer (control unit 22 in figure 3 and paragraph [0125]).

However Itoh does not explicitly disclose that the modulation scheme determination unit is configured to determine the modulation scheme by selecting a modulation scheme that uses a smallest available transmission block size that is greater than or equal to the amount of data buffered.

In the same field of endeavor Alastalo discloses that the modulation scheme determination unit is configured to determine the modulation scheme by selecting a modulation scheme that uses a smallest available transmission block size that is greater than or equal to the amount of data buffered (by changing the modulation scheme the

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length of the packet is also changed with the objective of minimizing the amount of padding which corresponds to the smallest available transmission block that can carry the data to be transmitted) (column 3, lines 38-43).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to select the modulation scheme as disclosed by Alastalo in the system of Itoh in order to improve throughput.

Nonetheless the combination of Itoh and Alastalo does not explicitly disclose establishing a list of available modulation schemes, each modulation scheme having an available transmission block size.

In the same field of endeavor, Takano teaches establishing a list of available modulation schemes, each modulation scheme having an available transmission block size (figure 10 and paragraph [0005]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to establishing a list of available modulation schemes, each modulation scheme having an available transmission block size as taught by Takano in the system of Itoh as modified by Alastalo in order to use the optimum transmission power.

Consider claims 2, 4, and 6 and as applied to claims 1, 3, and 5 respectively above, Itoh as modified by Alastalo, and further modified by Takano discloses that the modulation scheme determination unit is configured to determine the modulation scheme that satisfies a prescribed communication condition (channel quality)(Itoh, paragraph [108]), and that makes padding, which is added to the data buffered in the

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transmission buffer when the buffered data amount is less than a transmission unit size, become the minimum, based on the channel quality and the buffered data amount (by changing the modulation scheme the length of the packet is also changed with the objective of minimizing the amount of padding) (Alastalo, column 3, lines 38-43).

Response to Arguments

5. Applicant's arguments filed 01/27/2009 have been fully considered but they are not persuasive. In page 3 of the Remarks the Applicant states that the outstanding Office Action is asserting that Alastalo inherently describes "selecting a modulation scheme from the list using a smallest available transmission block size that is greater than or equal to the amount of data buffered.", as claimed in claim 1. However the Examiner has not relied on inherency in rejecting claim 1. The Office Action cites Col. 3, ll. 38-43 in Alastalo to support the rejection; Alastalo clearly teaches that "The length of the packet can also be tuned with modulation such that selecting a lower-datarate modulation results in a longer packet and vice versa. This can help to reduce the amount of padding if a lower-datarate modulation is selected for the shorter of the simultaneously transmitted packets". Since padding bits constitute a waste of valuable bandwidth, Alastalo varies the modulation scheme to find the packet size that better fits the data, which is the packet size that minimizes the number of padding bits, which ideally would be zero. Therefore the teaching of Alastalo clearly reads on "selecting a modulation scheme from the list using a smallest available transmission block size that is greater than or equal to the amount of data buffered.".

The Applicant further contends that the statement in Alastalo to reduce the amount of padding does not necessarily teach or suggest selecting a modulation scheme from the list using a smallest available transmission block size that is greater than or equal to the amount of data buffered because minimizing the amount of padding may be done by choosing a block size less than the amount of and sending multiple small blocks, and in fact would most likely be done in this manner. The Applicant agrees with the Applicant observation, but Alastalo already considers this approach by dynamically fragmenting the data so that padding is not required (see Col. 3, l. 65 - Col.4, l.5).

Therefore, in view of the above reasons and having addressed Applicant's argument, the previous rejection is maintained and made FINAL by the Examiner.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERMAN VIANA DI PRISCO whose telephone number is (571)270-1781. The examiner can normally be reached on Monday through Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/German Viana Di Prisco/
Examiner, Art Unit 2617

/Rafael Pérez-Gutiérrez/

Supervisory Patent Examiner, Art Unit 2617

March 26, 2009